

Installation Instructions

Gas Conversion Kit Natural-to-Propane for Standing Pilot and HSI Fixed-Speed Furnaces

KGANP2001ALL



NOTE: Read the entire instruction manual before starting the installation. More parts are shipped in kit than will be needed to complete conversion. When installation is complete, discard excess parts.

This symbol → indicates a change since the last issue.


SAFETY CONSIDERATIONS

Installing and servicing heating equipment can be hazardous due to gas and electrical components. Only trained and qualified personnel should install, repair, or service heating equipment.


Untrained personnel can perform basic maintenance functions such as cleaning and replacing air filters. All other operations must be performed by trained service personnel. When working on heating equipment, observe precautions in the literature, on tags, and on labels attached to or shipped with the unit and other safety precautions that may apply.


Follow all safety codes. In the United States, follow all safety codes including the National Fuel Gas Code (NFPA No. 54-1996/ANSI Z223.1-1996). In Canada, refer to the current edition of the National Standard of Canada CAN/CGA-B149.1- and .2-M95 Natural Gas and Propane Installation Codes (NSCNGPIC).

Wear safety glasses and work gloves. Have fire extinguisher available during start-up and adjustment procedures and service calls.

Recognize safety information. This is the safety-alert symbol . When you see this symbol on the furnace and in instructions or manuals, be alert to the potential for personal injury.

Understand the signal words DANGER, WARNING, CAUTION, and NOTE. The words DANGER, WARNING, and CAUTION are used with the safety-alert symbol. DANGER identifies the most serious hazards which **will** result in severe personal injury or death. WARNING signifies a hazard which **could** result in personal injury or death. CAUTION is used to identify unsafe practices which **would** result in minor personal injury or product and property damage. NOTE is used to highlight suggestions which **will** result in enhanced installation, reliability, or operation.

 WARNING: This conversion kit shall be installed by a qualified service agency in accordance with the manufacturer's instructions and all applicable codes and requirements of the authority having jurisdiction. If the information in these instructions is not followed exactly, a fire, explosion, or production of carbon monoxide may result causing property damage, personal injury, or loss of life. The qualified service agency performing this work assumes responsibility for the proper conversion of this furnace with this kit. In Canada, the conversion shall be carried out in accordance with the requirements of the provincial authorities having jurisdiction and the NSCNGPIC.

 AVERTISSEMENT: Cet ensemble de conversion ne doit être installé que par le représentant d'un organisme qualifié et conformément aux instructions du fabricant et à tous les codes et exigences applicables de l'autorité compétente. Quiconque ne respecte pas à la lettre les instructions dans le présent manuel risque de déclencher un incendie ou une explosion entraînant des dommages matériels, des lésions corporelles ou la perte de vies humaines. L'organisme qualifié qui effectue les travaux est responsable de la conversion correcte de ce générateur d'air chaud à l'aide de cet ensemble.

INTRODUCTION

This instruction covers the installation of gas conversion kit Part No. KGANP2001ALL to convert the following furnaces from natural gas usage to propane gas usage. See the appropriate section for your furnace type.

- Section 1—Models 58DFA, 58GFA, 58PAP, 58RAP, 373LAD, 383KAD, 394HAD, 396HAD, GA1AAD, and GA2AAD Induced-Combustion, Standing Pilot, Fixed-Speed, Non-Condensing Furnaces. This kit is designed for use in 065 through 150 size furnaces. The gas valve will be either a Honeywell VR8200H or BR8300H.
- • Section 2—Models 58DHC, 58PAV, 58RAV, 58SSC, 58WAV, 58YAV, 58ZAV, 373LAV, 376CAV, 383KAV, 393AAV, 395CAV, 480BAV, 481BAV, GB1AAV, GB3AAV, PG8DAA, and PG8UAA Induced-Combustion, Hot Surface Ignition, Fixed-Speed, Non-Condensing Furnaces. This kit is designed for use in 045 through 155 size furnaces. The gas valve will be a White-Rodgers 36E with either an electric control switch or a manual control knob.
- • Section 3—Models 58MCA, 58MSA, 58MXA, 340MAV, 345MAV, 350MAV, 490AAV, and PG9MAA Multipoise, Hot Surface Ignition, Fixed-Speed, Condensing Furnaces. This kit is designed for use in 040 through 140 size furnaces. The gas valve will be a White-Rodgers 36E with either an electric control switch or a manual control knob.

⚠ WARNING: Improper installation, adjustment, alteration, service, maintenance, or use can cause carbon monoxide poisoning, explosion, fire, electrical shock, or other conditions which could result in personal injury or death. Consult a qualified installer, service agency, local gas supplier, or your distributor or branch for information or assistance. The qualified installer or agency must use only factory-authorized kits and accessories when modifying this product. Failure to follow these instructions could result in serious injury or property damage.

⚠ CAUTION: The gas supply must be shut off before disconnecting electrical power and proceeding with conversion.

Table 1—Kit Contents

DESCRIPTION	PART NO.	QUANTITY
Regulator Spring Kit (White—Propane) for White-Rodgers 36E Gas Valve	EF39ZW023	1
Regulator Spring Kit for Honeywell VR8200 Gas Valve	EF39ZW025	1
Pilot Orifice—Honeywell	LH32AN102	1
Main Burner Orifice (Drill Size No. 54)	LH32DB203	7
Main Burner Orifice (Drill Size No. 55)	LH32DB201	7
Main Burner Orifice (Drill Size No. 1.25 mm)	LH32DB209	7
Conversion Rating Plate Label—Non-Condensing Furnaces	321222-101	1
Conversion Rating Plate Label—Condensing Furnaces	321222-102	1
Conversion Responsibility Label	321201-101	1
Gas Control Conversion Label	310148-301	1
Installation Instructions	AG-GANP-19	1

**SECTION 1—MODELS 58DFA, 58GFA, 58PAP, 58RAP, 373LAD, 383KAD, 394HAD, 396HAD, GA1AAD, AND GA2AAD
INDUCED-COMBUSTION, STANDING PILOT, FIXED-SPEED, NON-CONDENSING FURNACES**

NOTE: See Fig. 1 and 2 for component location.

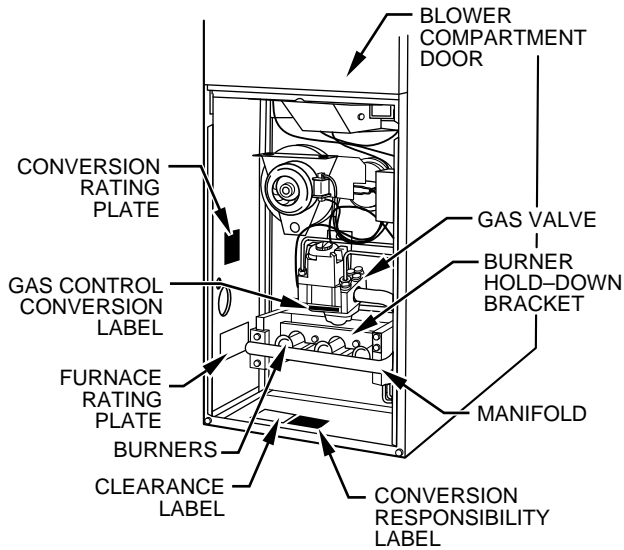


Fig. 1—Downflow, Standing Pilot, Fixed-Speed, Non-Condensing Furnace Component and Conversion Label Location

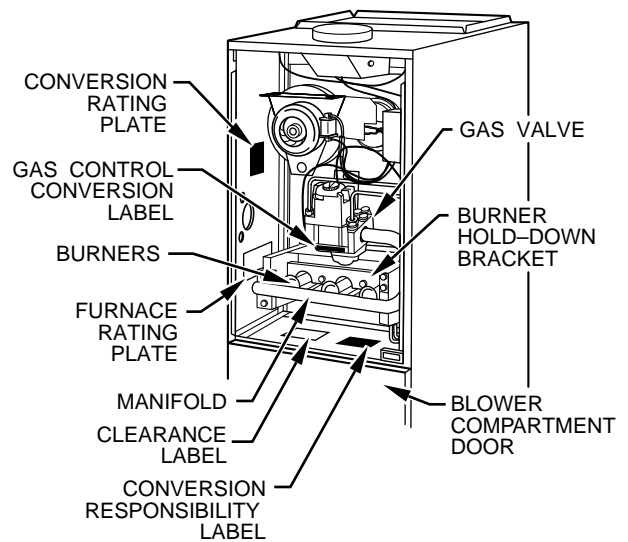


Fig. 2—Upflow, Standing Pilot, Fixed-Speed, Non-Condensing Furnace Component and Conversion Label Location

PROCEDURE 1—INSTALL PILOT ORIFICE

1. Turn off furnace gas and electrical supplies.
2. Remove furnace control access door.
3. Turn furnace gas valve control knob to OFF position.
4. Disconnect pilot gas tube and thermocouple from gas valve.
5. Remove pilot mounting screw and remove pilot assembly from burner and furnace.
6. Remove gas supply tube from pilot using a backup wrench.
7. Remove and discard natural gas pilot orifice from gas supply opening of pilot.
8. Install new propane gas pilot orifice provided in kit.
9. Reinstall pilot gas supply tube on pilot. When tightening pilot tube, use backup wrench and turn pilot so that it will be at the same angle as before. (See Fig. 3.)

NOTE: DO NOT reinstall pilot on burner assembly at this time.

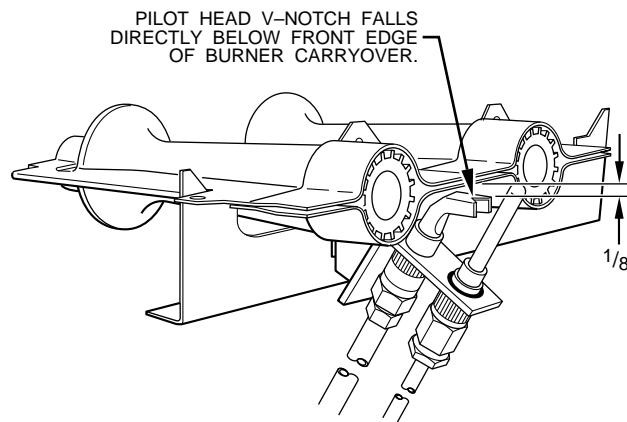


Fig. 3—Position of Pilot to Burner

PROCEDURE 2—INSTALL MAIN BURNER ORIFICES

1. Remove burner hold-down bracket.
2. Remove burners from manifold.
3. Remove and discard orifices from manifold.
4. Refer to Fig. 4 to determine main burner orifice.

CONVERSION KIT RATING PLATE - CARRIER CORP.

THIS APPLIANCE HAS BEEN CONVERTED TO USE PROPANE GAS FOR FUEL. REFER TO KIT INSTRUCTIONS FOR CONVERSION PROCEDURES. USE PARTS SUPPLIED BY CARRIER CORPORATION AND INSTALLED BY QUALIFIED PERSONNEL. SEE EXISTING RATING PLATE FOR APPLIANCE MODEL NO. AND INPUT RATING.

NOTE: Furnace gas input rate on rating plate is for installations up to 2000 ft above sea level. In U.S.A. the input rating for altitudes above 2000 ft must be derated by 4% for each 1000 ft above sea level. In Canada the input rating must be derated by 10% for altitudes of 2000 ft to 4500 ft above sea level.

KIT NO. KGANP2001ALL FUEL USED: PROPANE GAS INLET PRESSURE (min - max): 11.0 - 13.6 in. wc

APPLIANCE MODELS		ALTITUDE OF INSTALLATION (FT. ABOVE SEA LEVEL) U.S.A. *								
		0 to 2000	2001 * to 3000	3001 to 4000	4001 to 5000	5001 to 6000	6001 to 7000	7001 to 8000	8001 to 9000	9001 to 10000
58RAV, 58ZAV, 373LAV, PG8DAA 376CAV, 481BAV, GB3AAV	Orifice No. Mnfl'd Press	54 11.0	55 11.0	55 11.0	55 10.5	55 10.0	1.25mm 11.0	1.25mm 10.5	1.25mm 10.0	56 11.0
58PAV, 58WAV, 58YAV, 383KAV, 395CAV, 393AAV, 480BAV, GB1AAV, PG8UAA	Orifice No. Mnfl'd Press	54 10.0	55 10.5	55 10.0	1.25mm 11.0	1.25mm 11.0	1.25mm 10.5	1.25mm 10.0	56 11.0	56 10.0
58GFA, 394HAD	Orifice No. Mnfl'd Press	55 11.0	55 10.0	1.25mm 11.0	1.25mm 11.0	1.25mm 10.0	56 11.0	56 11.0	56 10.0	57 11.0

* For Canadian Installations from 2000 to 4500 ft use U.S.A. column 2001 to 3000 ft.

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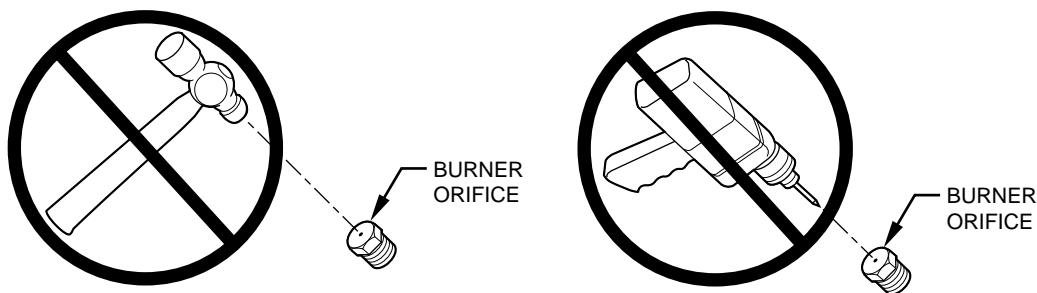
→ Fig. 4—Conversion Rating Plate Label—Non-Condensing Furnaces (Used for Orifice Size Selection for Propane, Standing Pilot, Fixed-Speed, Non-Condensing Furnaces)

Furnace gas input rate on rating plate is for installations at altitudes up to 2000 ft.

In the U.S.A., the input rating for altitudes above 2000 ft must be reduced by 4 percent for each 1000 ft above sea level.

In Canada, the input rating must be derated by 10 percent for altitudes of 2000 ft to 4500 ft above sea level.

5. Install main burner orifices. DO NOT use Teflon tape. Finger-tighten orifices at least 1 full turn to prevent cross-threading, then tighten with wrench. There are enough orifices in each kit for the largest furnace. Discard extra orifices. Orifices of other sizes must be field supplied and are available through your local distributor.



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⚠ CAUTION: DO NOT redrill burner orifices. Improper drilling (burrs, out-of-round holes, etc.) can cause excessive burner noise and misdirection of burner flames. This can result in flame impingement of the burners and heat exchangers causing failure. Obtain new orifices if orifice size must be changed.

6. Reinstall main burners on manifold. Burners should be installed left to right to ensure proper alignment of the burner cross-over slot. (See Fig. 3.)
7. Reinstall pilot assembly on burner assembly. See Fig. 3 for proper orientation of burners and pilot.
8. Reconnect pilot supply tube and thermocouple to gas valve.
9. Reinstall burner hold-down bracket.

PROCEDURE 3—CONVERT GAS VALVE

1. Be sure main gas and electrical supplies to furnace are off.
2. Remove regulator seal cap. (See Fig. 5.)
3. Install propane gas regulator spring from Honeywell kit.

4. Replace regulator adjustment screw.

NOTE: DO NOT reinstall regulator seal cap at this time.

PROCEDURE 4—CHECK INLET GAS PRESSURE

NOTE: This kit is to be used only when inlet gas pressure is between 11.0-in. wc and 13.6-in. wc.

1. Be sure main gas and electrical supplies to furnace are off.
2. Remove 1/8-in. pipe plug from inlet pressure tap on gas valve. (See Fig. 5.)
3. Attach manometer to inlet pressure tap on gas valve.

⚠ CAUTION: DO NOT operate furnace more than 1 minute to check inlet gas pressure as conversion is not complete at this time.

4. Turn on furnace power supply.
5. Turn gas supply manual shutoff valve to ON position.
6. Turn furnace gas valve control knob to PILOT position and depress.
7. Check pilot tube connections for gas leaks.
8. Turn furnace gas valve control knob to OFF position and wait 5 minutes.
9. Light pilot in accordance with furnace lighting instructions.
10. Turn furnace gas valve control knob to ON position.
11. Jumper R and W thermostat terminals to call for heat.
12. When main burners ignite, confirm inlet gas pressure is between 11.0-in. wc and 13.6-in. wc.
13. Remove jumper across R and W thermostat terminals to terminate call for heat.
14. Turn furnace gas valve control knob to OFF position.
15. Turn gas supply manual shutoff valve to OFF position.
16. Turn off furnace power supply.
17. Remove manometer and reinstall gas valve inlet pressure tap plug.

NOTE: Use propane-gas-resistant pipe dope to prevent gas leaks. DO NOT use Teflon tape.

PROCEDURE 5—CHECK FURNACE OPERATION AND MAKE NECESSARY ADJUSTMENTS

1. Be sure main gas and electrical supplies to furnace are off.
2. Remove 1/8-in. pipe plug from manifold pressure tap on downstream side of gas valve. (See Fig. 5.)
3. Attach manometer to manifold pressure tap on gas valve.
4. Turn gas supply manual shutoff valve to ON position.
5. Turn on furnace power supply.
6. Turn furnace gas valve control knob to ON position.
7. Check all threaded pipe connections for gas leaks.

⚠ WARNING: NEVER use a match or other open flame to check for leaks. Use a soap-and-water solution. Failure to follow this warning could result in personal injury or death.

8. Light pilot in accordance with furnace lighting instructions.
9. Turn furnace gas valve control knob to ON position.
10. Jumper R and W thermostat terminals to call for heat.
11. When main burners ignite, check manifold orifices for gas leaks.

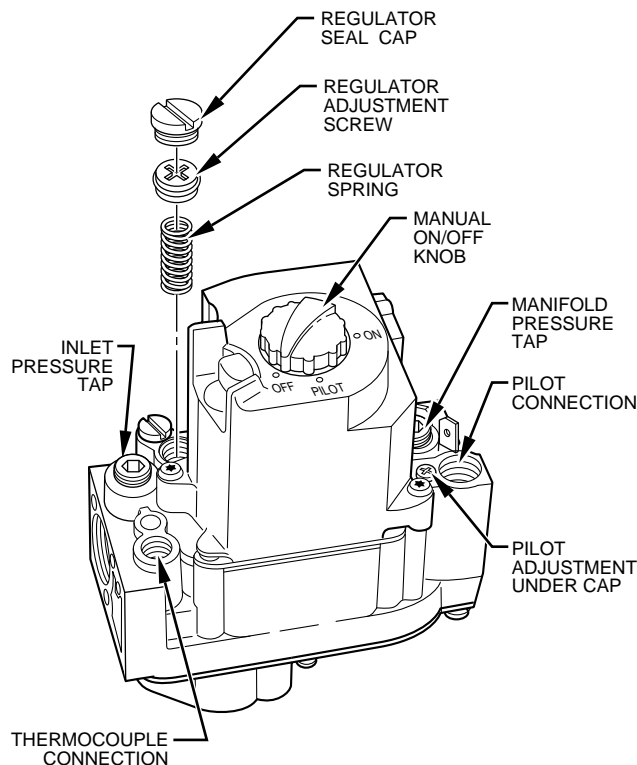
NOTE: The pilot flame should be soft blue in color and must provide good impingement on pilot thermocouple. The flame should extend above burner carryover port to provide proper ignition.

12. If pilot flame requires adjustment:
 - a. Locate adjustment screw on top of gas valve. (See Fig. 5.)
 - b. Remove cap and turn adjustment screw clockwise (in) to decrease pilot gas flow and counterclockwise (out) to increase pilot gas flow.
 - c. When proper adjustment is obtained, replace screw cap.

PROCEDURE 6—SET GAS INPUT RATE

The gas input rate for propane is the same as for natural gas. See furnace rating plate for input rate. The input rate for propane is determined by manifold pressure only. The gas valve regulator must be set per pressure stated in Fig. 4.

Furnace gas input rate on rating plate is for installations at altitudes up to 2000 ft.



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Fig. 5—Honeywell Gas Valve

In the U.S.A., the input rating for altitudes above 2000 ft must be reduced by 4 percent for each 1000 ft above sea level.

In Canada, the input rating must be derated by 10 percent for altitudes of 2000 ft to 4500 ft above sea level.

Furnace input rate must be within ± 2 percent of input on furnace rating plate.

1. Turn adjustment screw counterclockwise to decrease manifold pressure or clockwise to increase manifold pressure.
2. When correct input is obtained, replace regulator seal cap. Main burner flame should be clear blue, almost transparent. (See Fig. 6.)
3. Remove jumper across R and W thermostat terminals to terminate call for heat.
4. Turn furnace gas valve control knob to OFF position.
5. Remove manometer and replace manifold pressure tap plug. (See Fig. 5.)

NOTE: Use propane-gas-resistant pipe dope to prevent gas leaks. DO NOT use Teflon tape.

6. Light pilot in accordance with furnace lighting instructions.
7. Turn furnace gas valve control knob to ON position.
8. Set room thermostat to call for heat.
9. Check manifold pressure tap plug for gas leaks when main burners ignite.
10. Check for correct burner flame. (See Fig. 6.)
11. Observe unit through 2 complete heating cycles. See sequence of operation in furnace Installation, Start-Up, and Operating Instructions.
12. Set room thermostat to desired temperature.

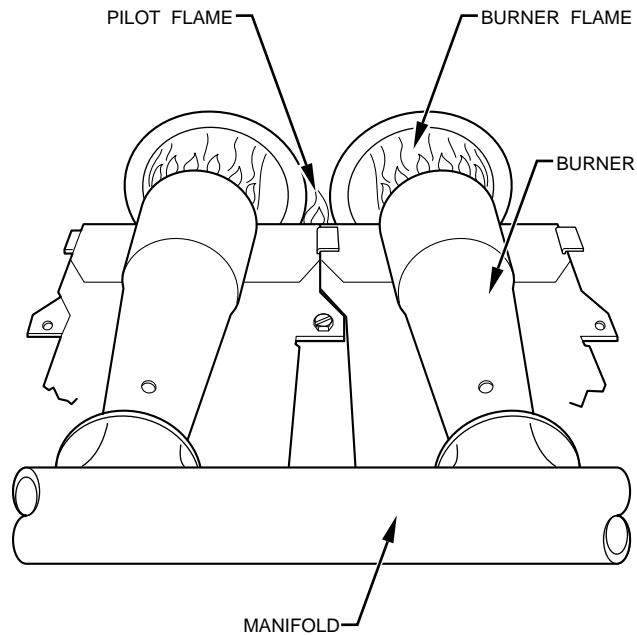


Fig. 6—Burner Flame

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PROCEDURE 7—APPLY LABELS

NOTE: See Fig. 1 or 2 for label location.

1. Fill in Conversion Responsibility Label (321201-101) and apply to inside furnace casing as shown. Date, name, and address of organization making conversion are required.
2. Apply Gas Control Conversion Label (310148-301) to gas valve as shown.
3. Apply Furnace Conversion Rating Plate (321222-101) near existing furnace rating plate.
4. Replace furnace control access door.

SECTION 2—MODELS 58DHC, 58PAV, 58RAV, 58SSC, 58WAV, 58YAV, 58ZAV, 373LAV, 376CAV, 383KAV, 393AAV, 395CAV, 480BAV, 481BAV, GB1AAV, GB3AAV, PG8DAA, AND PG8UAA INDUCED-COMBUSTION, HOT SURFACE IGNITION, FIXED-SPEED NON-CONDENSING FURNACES

NOTE: See Fig. 7 and 8 for component location.

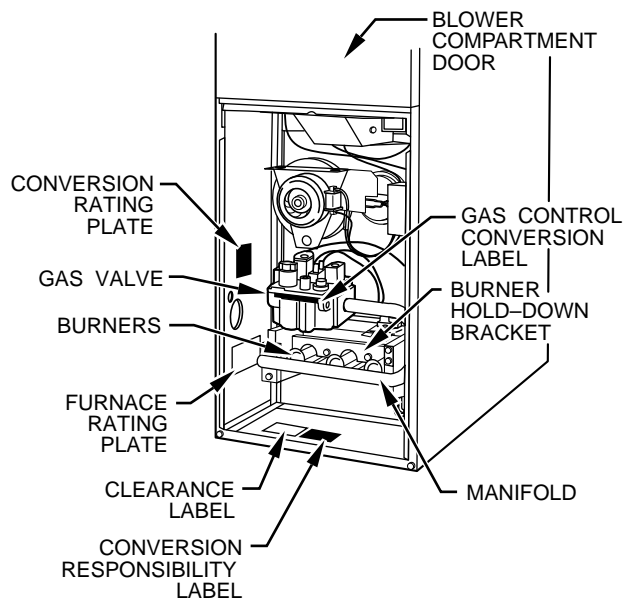


Fig. 7—Downflow/Horizontal Hot Surface Ignition, Fixed-Speed, Non-Condensing Furnace Component and Conversion Label Location

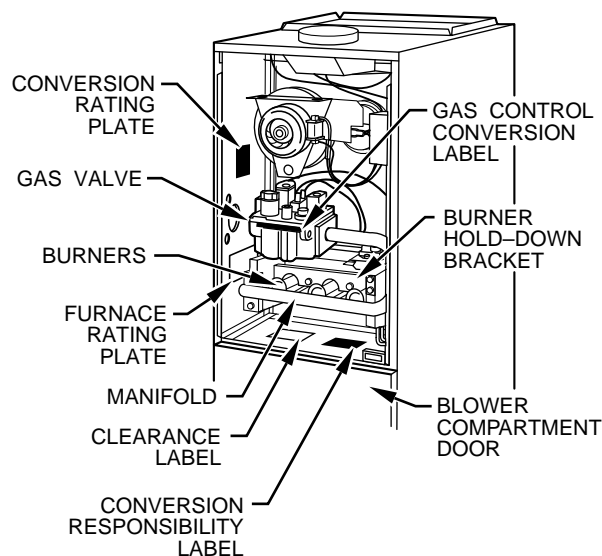


Fig. 8—Upflow, Hot Surface Ignition, Fixed-Speed, Non-Condensing Furnace Component and Conversion Label Location

PROCEDURE 1—INSTALL MAIN BURNER ORIFICES

1. Turn off furnace gas and electrical supplies.
2. Remove control access door.
3. Turn furnace gas valve control switch or control knob to OFF position.
4. Remove burner hold-down bracket.
5. Remove burners from manifold.
6. Remove and discard orifices from manifold.
7. Refer to Fig. 9 to determine main burner orifice.

CONVERSION KIT RATING PLATE - CARRIER CORP.

THIS APPLIANCE HAS BEEN CONVERTED TO USE PROPANE GAS FOR FUEL. REFER TO KIT INSTRUCTIONS FOR CONVERSION PROCEDURES. USE PARTS SUPPLIED BY CARRIER CORPORATION AND INSTALLED BY QUALIFIED PERSONNEL. SEE EXISTING RATING PLATE FOR APPLIANCE MODEL NO. AND INPUT RATING.

NOTE: Furnace gas input rate on rating plate is for installations up to 2000 ft above sea level. In U.S.A. the input rating for altitudes above 2000 ft must be derated by 4% for each 1000 ft above sea level. In Canada the input rating must be derated by 10% for altitudes of 2000 ft to 4500 ft above sea level.

KIT NO. KGANP2001ALL

FUEL USED: PROPANE GAS

INLET PRESSURE (min - max): 11.0 - 13.6 in. wc

APPLIANCE MODELS		ALTITUDE OF INSTALLATION (FT. ABOVE SEA LEVEL) U.S.A. *								
		0 to 2000	2001 * to 3000	3001 to 4000	4001 to 5000	5001 to 6000	6001 to 7000	7001 to 8000	8001 to 9000	9001 to 10000
58RAV, 58ZAV, 373LAV, PG8DAA 376CAV, 481BAV, GB3AAV	Orifice No. Mnflid Press	54 11.0	55 11.0	55 11.0	55 10.5	55 10.0	1.25mm 11.0	1.25mm 10.5	1.25mm 10.0	56 11.0
58PAV, 58WAV, 58YAV, 383KAV, 395CAV, 393AAV, 480BAV, GB1AAV, PG8UAA	Orifice No. Mnflid Press	54 10.0	55 10.5	55 10.0	1.25mm 11.0	1.25mm 11.0	1.25mm 10.5	1.25mm 10.0	56 11.0	56 10.0
58GFA, 394HAD	Orifice No. Mnflid Press	55 11.0	55 10.0	1.25mm 11.0	1.25mm 11.0	1.25mm 10.0	56 11.0	56 11.0	56 10.0	57 11.0

* For Canadian Installations from 2000 to 4500 ft use U.S.A. column 2001 to 3000 ft.

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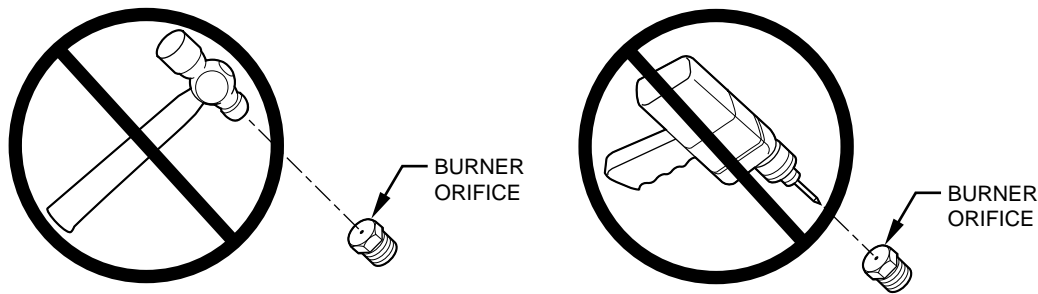
**→ Fig. 9—Conversion Rating Plate Label—Non-Condensing Furnaces
(Used for Orifice Size Selection for Propane, Hot Surface Ignition, Fixed-Speed, Non-Condensing Furnaces)**

Furnace gas input rate on rating plate is for installations at altitudes up to 2000 ft.

In the U.S.A., the input rating for altitudes above 2000 ft must be reduced by 4 percent for each 1000 ft above sea level.

In Canada, the input rating must be derated by 10 percent for altitudes of 2000 ft to 4500 ft above sea level.

8. Install main burner orifices. Finger-tighten orifices at least 1 full turn to prevent cross-threading, then tighten with wrench. There are enough orifices in each kit for the largest furnace. Discard extra orifices. Orifices of other sizes must be field supplied and are available through your local distributor.



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⚠ CAUTION: DO NOT redrill burner orifices. Improper drilling (burrs, out-of-round holes, etc.) can cause excessive burner noise and misdirection of burner flames. This can result in flame impingement of the burners and heat exchangers, causing failures. Obtain new orifices if orifice size must be changed.

9. Reinstall main burners on manifold. Burners should be installed left to right to ensure proper alignment of the burner cross-over slot. (See Fig. 10.)
10. Reinstall burner hold-down bracket.

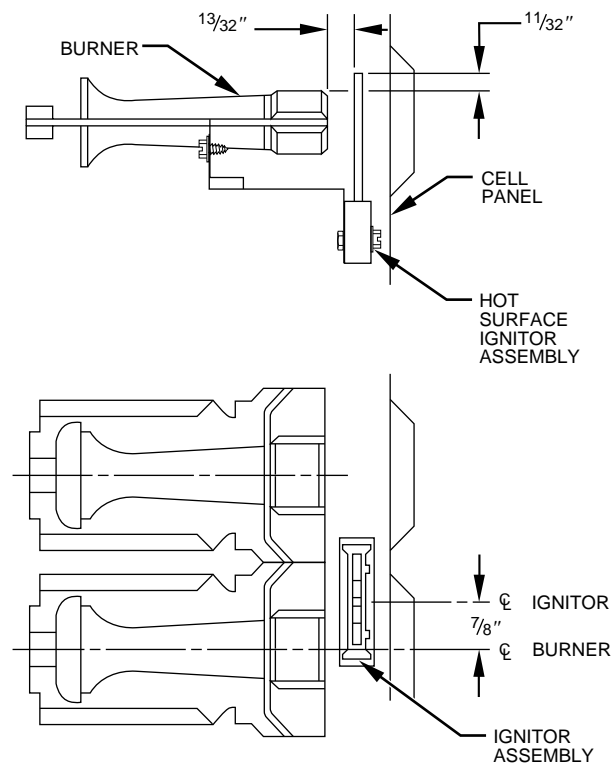
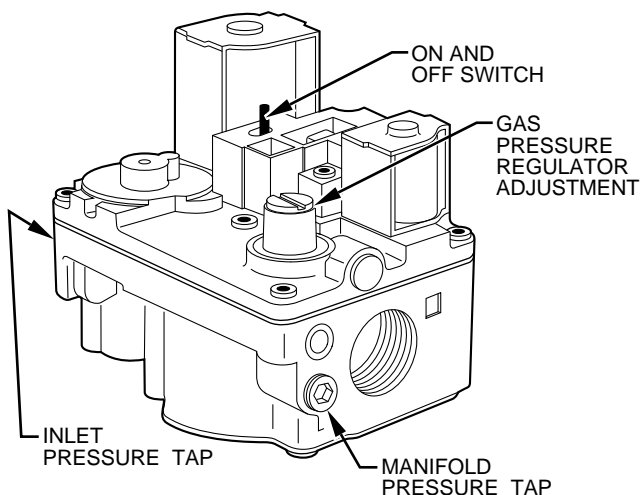


Fig. 10—Position of Ignitor to Burner

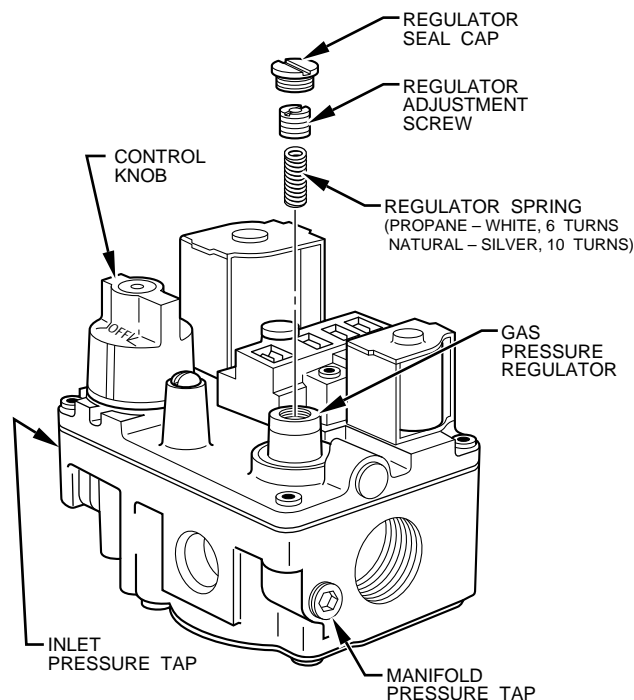
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PROCEDURE 2—CONVERT GAS VALVE

1. Be sure gas and electrical supplies to furnace are off.
2. Remove regulator seal cap. (See Fig. 11 or 12.)
3. Remove adjustment screw and natural gas regulator spring (silver).
4. Install propane gas regulator spring (white) into gas valve.
5. DO NOT reinstall regulator seal cap at this time.



**Fig. 11—White-Rodgers Model 36E Gas Valve
(With Electric Control Switch)**



**Fig. 12—White-Rodgers Model 36E Gas Valve
(With Manual Control Knob)**

PROCEDURE 3—CHECK INLET GAS PRESSURE

NOTE: This kit is to be used only when inlet gas pressure is between 11.0-in. wc and 13.6-in. wc.

1. Remove 1/8-in. pipe plug from inlet pressure tap on gas valve. (See Fig. 11 or 12.)
2. Attach manometer to inlet pressure tap on gas valve.

⚠ CAUTION: DO NOT operate furnace more than 1 minute to check inlet gas pressure as conversion is not complete at this time.

3. Turn on furnace power supply.
4. Turn gas supply manual shutoff valve to ON position.
5. Turn furnace gas valve control switch or control knob to ON position.
6. Jumper R and W thermostat connections to call for heat.
7. When main burners have ignited, confirm that inlet gas pressure is between 11.0-in. wc and 13.6-in. wc.
8. Remove jumper across R and W thermostat connections to terminate call for heat.
9. Turn furnace gas valve control switch or control knob to OFF position.
10. Turn gas supply manual shutoff valve to OFF position.
11. Turn off furnace power supply.
12. Remove manometer and reinstall gas valve inlet pressure tap plug.

NOTE: Use propane-gas-resistant pipe dope to prevent gas leaks. DO NOT use Teflon tape.

PROCEDURE 4—CHECK FURNACE OPERATION AND MAKE NECESSARY ADJUSTMENTS

1. Be sure main gas and electrical supplies to furnace are off.
2. Remove 1/8-in. pipe plug from manifold pressure tap on downstream side of gas valve. (See Fig. 11 or 12.)
3. Attach manometer to manifold pressure tap on gas valve.
4. Turn furnace gas valve control switch or control knob to ON position.
5. Check all threaded pipe connections for gas leaks.

⚠ WARNING: NEVER use a match or other open flame to check for leaks. Use a soap-and-water solution. Failure to follow this warning could result in personal injury or death.

6. Turn on furnace power supply.
7. Jumper R and W thermostat connections to call for heat.
8. Check manifold orifices for gas leaks when main burners ignite.

PROCEDURE 5—SET GAS INPUT RATE

The gas input rate for propane is the same as for natural gas. See furnace rating plate for input rate. The input rate for propane is determined by manifold pressure only. The gas valve regulator must be set per pressure stated in Fig. 9.

Furnace gas input rate on rating plate is for installations at altitudes up to 2000 ft.

In the U.S.A., the input rating for altitudes above 2000 ft must be reduced by 4 percent for each 1000 ft above sea level.

In Canada, the input rating must be derated by 10 percent for altitudes of 2000 ft to 4500 ft above sea level.

Furnace input rate must be within ± 2 percent of input on furnace rating plate.

1. Turn adjusting screw counterclockwise to decrease manifold pressure or clockwise to increase manifold pressure.
2. When correct input is obtained, replace regulator seal cap. Main burner flame should be clear blue, almost transparent. (See Fig. 11.)
3. Remove jumper across R and W thermostat connections to terminate call for heat.
4. Turn furnace gas valve control switch or control knob to OFF position.
5. Turn off furnace power supply.
6. Remove manometer and replace manifold pressure tap plug. (See Fig. 11 or 12.)

NOTE: Use propane-gas-resistant pipe dope to prevent gas leaks. DO NOT use Teflon tape.

7. Turn furnace gas valve control switch or control knob to ON position.
8. Turn on furnace power supply.
9. Set room thermostat to call for heat.
10. Check manifold pressure tap plug for gas leaks when main burners ignite.
11. Check for correct burner flame. (See Fig. 13.)
12. Observe unit operation through 2 complete heating cycles. See sequence of operation in furnace Installation, Start-Up, and Operating Instructions.
13. Set room thermostat to desired temperature.

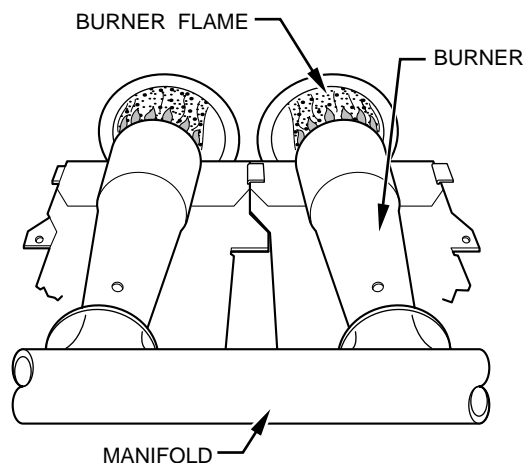


Fig. 13—Burner Flame

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PROCEDURE 6—APPLY LABELS

NOTE: See Fig. 6 or 7 for label location.

1. Fill in Conversion Responsibility Label (321201-101) and apply to inside furnace casing as shown. Date, name, and address of organization making this conversion are required.
2. Apply Gas Control Conversion Label (310148-301) to gas valve as shown.
3. Apply Furnace Conversion Rating Plate (321222-101) near existing furnace rating plate.

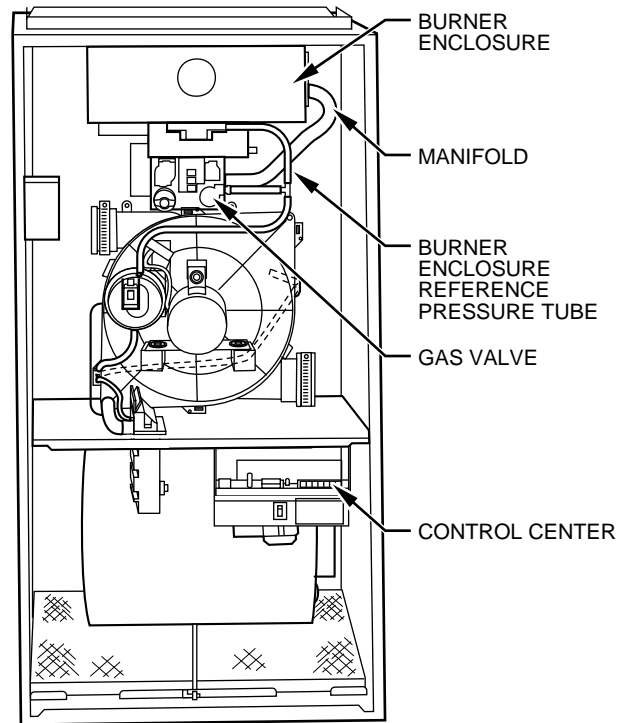
NOTE: Discard labels and instructions packaged with White-Rodgers regulator.

4. Replace furnace control access door.

**SECTION 3—MODELS 58MCA, 58MSA, 58MXA, 340MAV, 345MAV, 350MAV, 490AAV AND PG9MAA MULTIPOISE,
HOT SURFACE IGNITION, FIXED-SPEED, CONDENSING FURNACES**

PROCEDURE 1—INSTALL MAIN BURNER ORIFICES

NOTE: See Fig. 14 for component location in upflow furnaces. Re-orient component arrangement when furnace is installed in other position.



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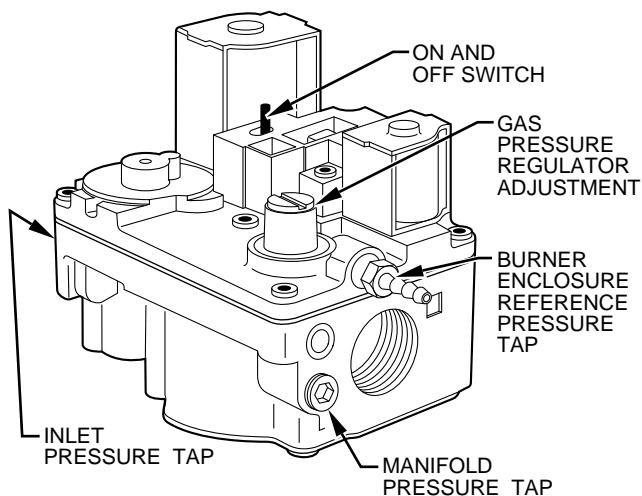
**Fig. 14—Multipoise, Hot Surface Ignition, Fixed-Speed, Condensing Furnace Component Location
(Upflow Orientation Shown)**

1. Turn off furnace gas and electrical supplies.
2. Remove main furnace door.
3. Turn furnace gas valve control switch or control knob to OFF position.
4. Remove burner enclosure cover.
5. Remove gas supply pipe from gas valve.
6. Remove wires from gas valve. Note location for reassembly.

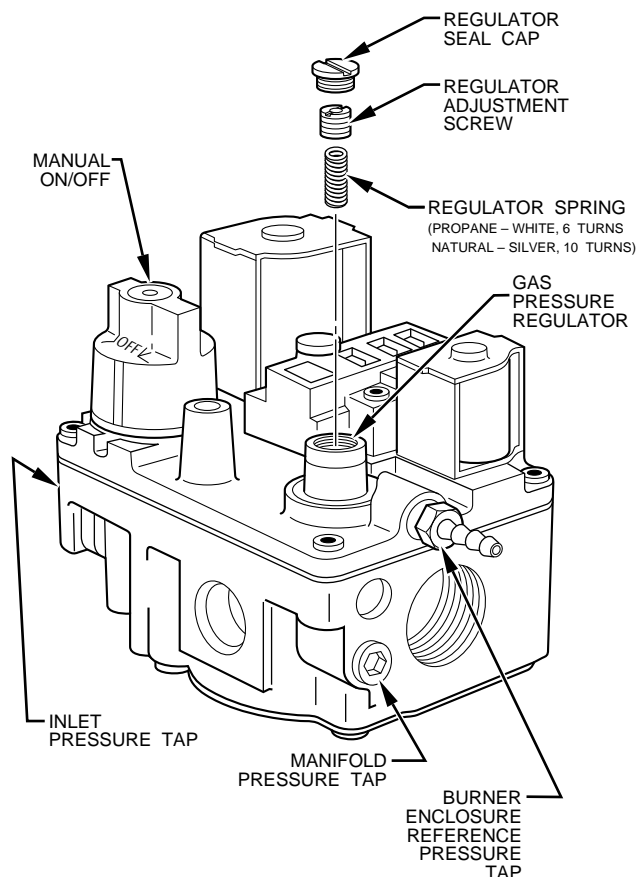
⚠ CAUTION: Label all wires prior to disconnection when servicing controls. Wiring errors can cause improper and dangerous operation.

⚠ ATTENTION: Lors des opérations d'entretien des commandes, étiqueter tous les fils avant de les déconnecter. Toute erreur de câblage peut être une source de danger et de panne.

7. Remove burner enclosure pressure tube from gas valve burner enclosure reference pressure tap. (See Fig. 15 or 16.)
8. Remove screws that secure manifold to burner enclosure and remove manifold, orifices, and gas valve as 1 assembly.
9. Remove and discard orifices from manifold.



**Fig. 15—Redundant Automatic Gas Valve
(With Electric Control Switch)**



**Fig. 16—Redundant Automatic Gas Valve
(With Manual Control Knob)**

10. Refer to Fig. 17 to determine main burner orifice.

CONVERSION KIT RATING PLATE - CARRIER CORP.

THIS APPLIANCE HAS BEEN CONVERTED TO USE PROPANE GAS FOR FUEL. REFER TO KIT INSTRUCTIONS FOR CONVERSION PROCEDURES. USE PARTS SUPPLIED BY CARRIER CORPORATION AND INSTALLED BY QUALIFIED PERSONNEL. SEE EXISTING RATING PLATE FOR APPLIANCE MODEL NO. AND INPUT RATING.

NOTE: Furnace gas input rate on rating plate is for installations up to 2000 ft above sea level. In U.S.A. the input rating for altitudes above 2000 ft must be derated by 2% for each 1000 ft above sea level. In Canada the input rating must be derated by 5% for altitudes of 2000 ft to 4500 ft above sea level.

KIT NO. KGANP2001ALL **FUEL USED: PROPANE GAS** **INLET PRESSURE (min - max): 11.0 - 13.6 in. wc**

APPLIANCE MODELS		ALTITUDE OF INSTALLATION (FT. ABOVE SEA LEVEL) U.S.A. *								
		0 to 2000	2001 * to 3000	3001 to 4000	4001 to 5000	5001 to 6000	6001 to 7000	7001 to 8000	8001 to 9000	9001 to 10000
58MXA, 58MCA, 58MSA, 340MAV, 350MAV, 345MAV, 490AAV, PG9MAA (All model sizes EXCEPT 140)	Orifice No. Mnfl'd Press	55 10.0	55 10.0	55 10.0	55 10.0	1.25mm 11.0	1.25mm 11.0	1.25mm 11.0	1.25mm 11.0	1.25mm 11.0
58MXA, 58MCA, 340MAV, 350MAV, 490AAV, PG9MAA (140 model size ONLY)	Orifice No. Mnfl'd Press	54 11.0	54 10.5	54 10.5	54 10.0	54 10.0	54 10.0	54 10.0	54 10.0	54 10.0

* For Canadian Installations from 2000 to 4500 ft use U.S.A. column 2001 to 3000 ft.

321222-102 REV. B

→ Fig. 17—Conversion Rating Plate Label—Condensing Furnaces

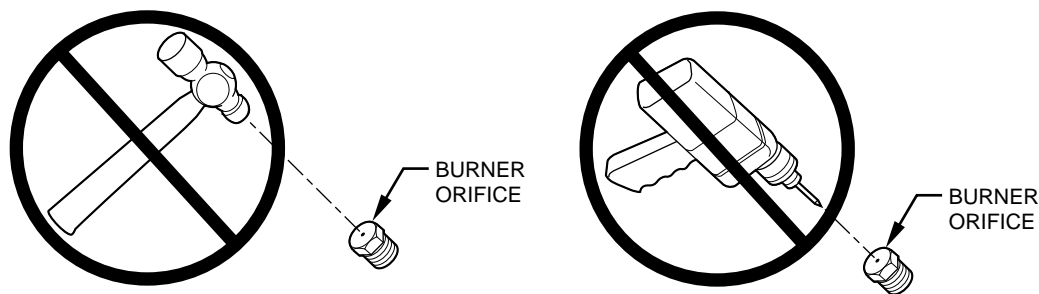
(Used for Orifice Size Selection for Propane Multipoise, Hot Surface Ignition, Fixed-Speed, Condensing Furnaces)

Furnace gas input rate on rating plate is for installations at altitudes up to 2000 ft.

In the U.S.A., the input rating for altitudes above 2000 ft must be reduced by 2 percent for each 1000 ft above sea level.

In Canada, the input rating must be derated by 5 percent for altitudes of 2000 ft to 4500 ft above sea level.

11. Install main burner orifices. Finger-tighten orifices at least 1 full turn to prevent cross-threading, then tighten with wrench. There are enough orifices in each kit for the largest furnace. Discard extra orifices. Orifices of other sizes must be field supplied and are available through your local distributor.



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⚠ CAUTION: DO NOT redrill burner orifices. Improper drilling (burrs, out-of-round holes, etc.) can cause excessive burner noise and misdirection of burner flames. This can result in flame impingement of the burners and heat exchangers, causing failures. Obtain new orifices if orifice size must be changed.

12. Reinstall manifold, orifice, and gas valve assembly in burner box. Ensure manifold seal is installed properly and burners fit over orifices.
13. Reconnect wires to gas valve. Refer to furnace wire schematic for proper wire location.
14. Reinstall burner box pressure tube to gas valve burner enclosure reference pressure tap.
15. Reinstall gas supply pipe to gas valve.

PROCEDURE 2—CONVERT GAS VALVE

1. Be sure main gas and electrical supplies are off.
2. Remove regulator seal cap. (See Fig. 15 or 16.)
3. Remove adjustment screw and natural gas regulator spring (silver).
4. Install propane gas regulator spring (white) in gas valve.

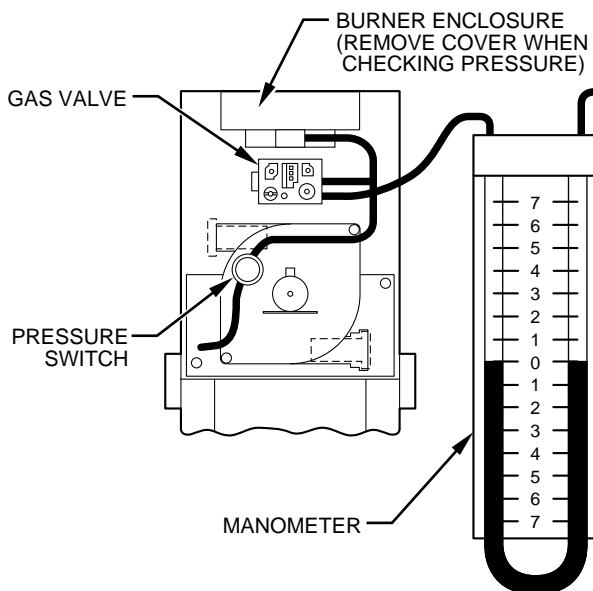
NOTE: DO NOT reinstall regulator seal cap at this time.

PROCEDURE 3—CHECK INLET GAS PRESSURE

NOTE: This kit is to be used only when inlet gas pressure is between 11.0-in. wc and 13.6-in. wc.

1. Be sure main gas and electrical supplies to furnace are off.
2. Remove 1/8-in. pipe plug from inlet pressure tap on gas valve. (See Fig. 15 or 16.)
3. Attach manometer to inlet pressure tap on gas valve. (See Fig. 18.)

⚠ CAUTION: DO NOT operate furnace more than 1 minute to check inlet gas pressure as conversion is not complete at this time.



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Fig. 18—Adjusting Manifold Pressure (Manometer Attachment)

4. Turn on furnace power supply.
5. Turn gas supply manual shutoff valve to ON position.
6. Turn furnace gas valve control switch or control knob to ON position.
7. Jumper R and W thermostat connections to call for heat.
8. When main burners ignite, confirm inlet gas pressure is between 11.0-in. wc and 13.6-in. wc.
9. Remove jumper across R and W thermostat connections to terminate call for heat.
10. Turn furnace gas valve control switch or control knob to OFF position.
11. Turn gas supply manual shutoff valve to OFF position.
12. Turn off furnace power supply.
13. Remove manometer and reinstall gas valve inlet pressure tap plug.

NOTE: Use propane-gas-resistant pipe dope to prevent gas leaks. DO NOT use Teflon tape.

PROCEDURE 4—CHECK FURNACE OPERATION AND MAKE NECESSARY ADJUSTMENTS

1. Be sure main gas and electrical supplies to furnace are off.
2. Remove 1/8-in. pipe plug from manifold pressure tap on downstream side of gas valve. (See Fig. 15 or 16.)
3. Attach manometer to manifold pressure tap on gas valve. (See Fig. 18.)
4. Turn gas supply manual shutoff valve to ON position.
5. Turn furnace gas valve control switch or control knob to ON position.
6. Check all threaded pipe connections for gas leaks.

⚠ WARNING: NEVER use a match or other open flame to check for leaks. Use a soap-and-water solution. Failure to follow this warning could result in personal injury or death.

7. Turn on furnace power supply.
8. Jumper R and W thermostat connections to call for heat.
9. Check manifold orifices for gas leaks when main burners ignite.

PROCEDURE 5—SET GAS INPUT RATE

The gas input rate for propane is the same as for natural gas. See furnace rating plate for input rate. The input rate for propane is determined by manifold pressure only. The gas valve regulator must be set per pressure stated in Fig. 17.

Furnace gas input rate on rating plate is for installations at altitudes up to 2000 ft.

In the U.S.A., the input rating for altitudes above 2000 ft must be reduced by 2 percent for each 1000 ft above sea level.

In Canada, the input rating must be derated by 5 percent for altitudes of 2000 ft to 4500 ft above sea level.

Furnace input rate must be within ± 2 percent of input on furnace rating plate.

1. Adjust gas manifold pressure.
 - a. Remove burner box cover and gas valve regulator seal cap that conceal adjustment screw. (See Fig. 15 or 16.)

NOTE: Manifold pressure MUST always be measured with burner box cover removed.

- b. Turn adjusting screw counterclockwise (out) to decrease manifold pressure or clockwise (in) to increase manifold pressure.

NOTE: Gas valve regulator seal cap MUST be in place when checking input rate.

- c. When correct input is obtained main burner flame should be clear blue, almost transparent. (See Fig. 13.)
2. Remove jumper across R and W thermostat connections to terminate call for heat.
3. Turn furnace gas valve control switch or control knob to OFF position.
4. Turn off furnace power supply.
5. Remove manometer and replace manifold pressure tap plug. (See Fig. 15 or 16 and 18.)

NOTE: Use propane-gas-resistant pipe dope to prevent gas leaks. DO NOT use Teflon tape.

6. Reinstall burner box cover.
7. Turn furnace gas valve control switch or control knob to ON position.
8. Turn on furnace power supply.
9. Set room thermostat to call for heat.
10. Check manifold pressure tap plug for gas leaks when main burners ignite.
11. Observe unit operation through 2 complete heating cycles. See sequence of operation in furnace Installation, Start-Up, and Operating Instructions.
12. Set room thermostat to desired temperature.

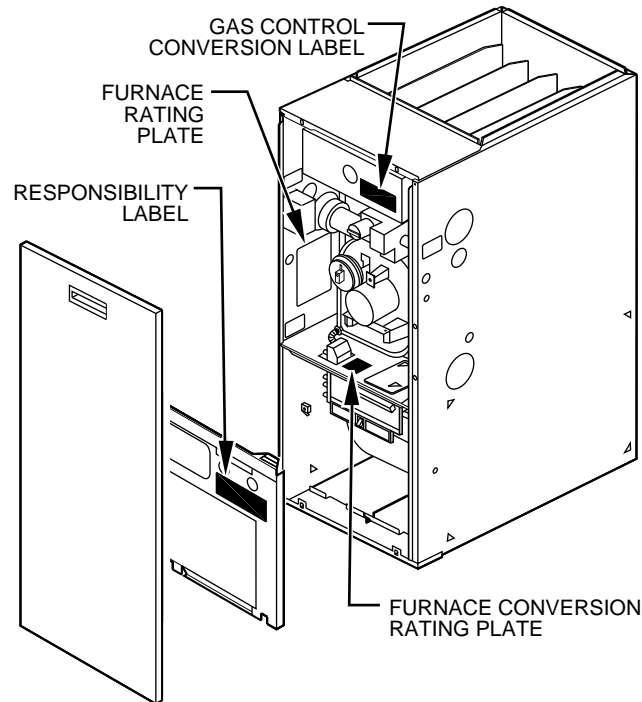
PROCEDURE 6—APPLY LABELS

NOTE: See Fig. 19 for label location.

1. Fill in Conversion Responsibility Label (321201-101) and apply label to blower access panel as shown. Date, name, and address of organization making this conversion are required.
2. Apply Gas Control Conversion Label (310148-301) to burner box cover as shown.
3. Apply Furnace Conversion Rating Plate (321222-102) on blower shelf as shown.

NOTE: Discard labels and instructions packaged with White-Rodgers regulator spring conversion kit.

4. Reinstall main furnace door.



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Fig. 19—Multipoise, Fixed-Speed, Condensing Furnace Conversion Label Location (Upflow Orientation Shown)